NEW YORK NEUROLOGICAL SOCIETY.

November 5, 1901.

The President, Dr. Joseph Collins, in the chair.

Portrait of Dr. E. C. Seguin.—Dr. J. Arthur Booth presented to the society a portrait of one of its founders, the late Dr. E. C. Seguin. The portrait was donated by Mrs. Seguin.

Case of Disseminated Sclerosis.—Dr. William M. Leszynsky presented a man whom he had first seen about two years ago. At that time the patient was thirty-two years of age, and had been well up to eighteen months previously. At that time he had suffered from occasional diplopia, but it had since almost disappeared. He had had occasionally a staggering gait and speech had become slow. There had also been some difficulty in swallowing. There had been no headache, tinnitus or vomiting, and no bladder symptoms. When first seen he had complained of being nervous and emotional. The examination showed him to be healthy in appearance. There was slight hesitancy in speech, and he was disposed to break into tears on slight provocation. There was slight horizontal nystagmus on efforts at fixation. The fundi and the visual fields were normal. His gait was slightly ataxic, and there was slight dragging of the right leg and a tendency to fall to that side. Both knee-jerks and Achilles reflexes were exaggerated. The examination of the urine was negative. On January 23, 1900, there was slight paresis in the left posterior thigh muscles and slight ataxia in the left upper extremity. In May it had been noted that he was not so emotional, but he dragged the left leg in walking, and the scapulæ were prominent. In December it had been noted that the static ataxia was well marked. In March of the present year there was slight rigidity and dragging of the right leg in walking with tendency to fall to the right. At the present time the pupils are normal; there is slight oscillation of the eye-balls; slight ataxia of the right upper extremity; muscular power is perfect; the speech is slow and uncertain; there is a tendency to fall toward the left with a paraplegic gait. He stands with difficulty on either leg alone. A specimen of his handwriting was exhibited. During the past year there had been practically only an increase in the cerebellar incoördination and in the defect of speech. The man presented none of the stigmata of hysteria and was in no way neurasthenic. While he did not present all of the characteristics of disseminated sclerosis there were sufficient symptoms present, the speaker thought, to warrant this diagnosis.

Dr. B. Sachs thought there could be no doubt about the correctness of this diagnosis. It seemed to him a good example of the rather rare cerebellar form of multiple sclerosis.

Tumor of the Pons.—Dr. Joseph Collins presented some sections from a tumor of the pons. They had been taken from a woman, about forty years of age, who had gone to a dance on August 24, 1900, feeling quite well. After dancing a short time, the evening being very hot, she fell and remained unconscious for two hours. She said that her head felt heavy and her feet very light. The next morning on attempting to do housework she found that she was very dizzy and that the left side of the body did not seem to be under proper control. During the next three weeks there had been three transitory attacks of unconsciousness. There was in addition pronounced ataxia of the extremities, but no paralysis. There was also constant vertigo with occasional vomiting, and a feeling of great weakness. She also suffered from a distressing diplopia. After an interval of about a week, during which the symptoms had abated, they had again returned. She had then exhibited inebrious speech and had suffered from nausea on the slightest movement. He had seen her about seven weeks after the original attack, and examination had revealed paralysis of the right abducens and of the right facial, with no reaction of degeneration; slight anesthesia of the upper two branches of the fifth nerve with no involvement of the lower branch; also hemiataxia and an exaggeration of the tendon jerks all over. There was not much headache at the time, and no optic neuritis. The woman died with symptoms of bulbar involvement. The lesion had been diagnosticated as an acute softening in the left half of the pons. On autopsy a section through the pons revealed a fluid mass, but no evidence of a tumor or of an increase in the consistency of the pons. It had only been after hardening and cutting the pons that it had been found that there was an enormous angio-sarcoma involving the left side of the pons. It had pushed over the raphe and infiltrated the right half of the pons as well. The explanation of the lack of symptoms that one would expect with such a condition was that the growth had infiltrated between the motor and sensory fibers of the pons, but had failed to destroy them until a short time before the death of the patient. This was entirely at variance with what was usually observed in a growth of this character. Both acoustic nerves had escaped. At no time had there been any disturbance of vision, though careful tests had been made to determine this point.

Dr. M. Allen Starr said that last March he had seen in consultation with Dr. Biggs a patient who had presented rather a similar set of symptoms, namely, diplopia and paresis of several of the ocular muscles on both sides without a typical ophthalmoplegia externa. The patient also had anesthesia of one side of the face, and had the kind of speech often observed in bulbar palsy, together with a marked ataxia. There was no choked disc, so that the question had arisen as to whether the condition was one of softening or of the tumor. In the absence of headache and choked disc he had inclined to the diagnosis of softening, but the autopsy had shown an infiltrating glioma.

Clinical and Anatomical Report of a Case of Multiple Congenital Deformities.—Drs. B. Onuf and J. Fraenkel presented a joint paper, which was read by Dr. Fraenkel. The subject of the report was a girl who at the age of four years had been admitted to the Montefiore Home on September 22, 1895. The condition of the extremities had been noticed immediately after birth, and it was said that convulsions had occurred frequently during the first year. One year and a half before admission an osteotomy had been done at the hospital for clubfoot. During her stay in the Montefiore Home the girl had been frequently examined by various specialists. The child showed normal cerebration, but the emotions were displayed in an explosive manner. The chief features were: Motor disturbance of all four extremities; asymmetry of facial innervation, the face being drawn to the left; atrophy of the muscles of the forearm and fingers; drop-wrist on both sides; decided diminution in the motor power of forearms and hands; absence of the reflexes of the upper extremities; lower extremities decidedly tapering, and the right one the longer; decided diminution of the motor power of the flexors of the leg and extensors of the foot. On attempting to walk, standing erect, an intense lordosis developed, and there was a cock-step gait. The clinical picture had remained practically unaltered up to the time of her death from diphtheria in June, 1897. The autopsy had been made by Dr. George R. Elliott. There was a subluxation of the hand and forearm forward. The palmaris longus muscle was absent. The ulnar half of the flexor sublimis digitorum was much reduced in volume, while the radial half was composed of fat only. The flexor profundus digitorum was also quite fatty. The flexor longus pollicis was converted into fat and the supinator longus into a band. The muscles of the extensor side of the forearm were all small but were not fatty. The thenar muscles were absent with the exception of the flexor brevis pollicis. There was a dislocation of the left hip upward and forward without any break in the capsule, and the head of the bone was situated forward of the natural acetabulum. The new acetabulum was made up of the thickened capsular ligament, but was otherwise apparently normal in shape. The pelvic and thigh muscles on the side of the dislocation were either fatty or atrophic. Microscopical examination of the psoas and entire muscle mass of the three adductors demonstrated: (1) A reduction in the volume; (2) an increase in the perimuscular fat tissue in some, and interfascicular fatty tissue in others at the expense of the muscular tissue proper; (3) increase of the perimuscular fat, chiefly in the adductor group of the left thigh; (4) increase of the fibrous connective interstitial tissue; (5) a vascular change, chiefly a thickening of the vessel walls; (6) disintegration of muscle fibers in some muscles; (7) preservation of a relatively large number of muscle-spindle-cells in the affected muscles; (8) changes in the intermuscular nerve bundles, chiefly a scarcity of the nerve fibers and thickening of the perineurium. No less than 44 spinal nerve roots were examined microscopically and changes were found not only in many anterior, but also in many posterior roots. The spinal cord on gross examination showed an unusually meager development of the cervical and lumbar enlargements. Microscopically there were noted: (1) A shrinkage of the nerve cells of the anterior horns in most levels of the spinal cord; (2) a shrinkage of the cells of Clarke's columns in certain levels; (3) vascular changes and cavities in the gray matter, chiefly in the cervical and dorsal regions; (4) the presence of apparently undeveloped cells at certain levels; (5) proliferation of the ependyma of the central canal in certain regions; (6) changes in the white matter, probably by artefacts. On gross examination the brain exhibited nothing peculiar. Changes of an atrophic order and apparently the presence of certain cells in an embryonic state were noted on microscopic examination. The cells most frequently affected were the larger pyramidal cells. No vascular changes were noted. To give some idea of the minuteness and exhaustiveness of the examination made of this case it should be noted that 5,500 sections were made and prepared for examination.

Dr. George R. Elliott presented the right forearm and the pelvis of this child, and demonstrated some of the muscular peculiarities noted in the report. The head and shaft of the dislocated bone, he said, were normal except that they were small from disuse. The dislocation was upward. The speaker emphasized the fact that this was not the form of dislocation known as a congenital dislocation of the hip; true congenital dislocation of the hip was almost invariably backward on the dorsum of the ilium. The large ligamentum teres seemed to be only a physiological hypertrophy. There was nothing in the drop-wrists to warrant them being called congenital dislocations; they were rather the result of the pareses. With reference to the peripheral theory, Dr. Elliott said he could not quite understand how this would explain the picking out of portions of muscles and having them replaced by fat while others remained absolutely normal.

Dr. B. Sachs said that having seen the child during life he never doubted that the diagnosis lay between an intra-uterine poliomyelitis and a developmental defect. The paralytic conditions were secondary to the central change. In spite of the elaborate investigation that had been made the report was not wholly satisfying as to the character of the process. It did not seem to him that developmental defect of the gray matter of the cord could be excluded by the findings reported. It would have been interesting to follow up the anterior spinal artery and determine if this vessel were properly developed and had functionated properly. If it had not been normal, almost all of the changes in the gray matter described in the report could have been easily explained in that way. The case seemed to him to offer an example of a possible arrest of the development of the gray matter of the cord. He would like to know whether any unobjectionable case of intra-uterine poliomyelitis had been reported.

Dr. V. P. Gibney said that, so far as he knew, this was the first case of intra-uterine poliomyelitis that had been reported. In various discussions on clubfoot the subject of intra-uterine poliomyelitis had been pretty effectually disposed of. He agreed with Dr. Elliott that the dislocation in this case was not a true congenital dislocation of the hip.

Dr. Joseph Collins said that, judging from the report, he would not be satisfied to admit that the case was one of infantile poliomyelitis, because nothing had been said regarding the changes in the substance of the cells as evidence that these cells had undergone the parenchymatous changes which cells do suffer in poliomyelitis of every kind. He understood that the reason these changes had not been described was because the specimens had not been properly hardened for the Nissl stain. This was a great obstacle to the acceptance of the statement that the lesions were dependent upon a poliomyelitis. In poliomyelitis of every kind the external contour of the cord does not change, yet in the case reported shrinkage of the cord was prominent. Again, the cells were reported to be quite scarce, but the cells themselves were not materially disintegrated as should have been demonstrable in specimens so prepared. He found it impossible to imagine that this perceptible decrease of cells in size and shape in the motor region was purely secondary to the smallness of the cells in the cervical and lumbar regions. The changes in the muscles seemed to indicate very distinctly that they were secondary to central changes.

Dr. B. Onuf closed the discussion. He said that he thought that even if the anterior spinal artery had been badly developed it would not explain why the changes observed were so much more marked in some regions than in others. The intramuscular nerve bundles appeared degenerated. If there had been a developmental defect in the spinal cord one would look for absence of certain nerves and expect the rest to appear normal. In his opinion, the changes found in this case were fairly typical of poliomyelitis. The number of the cells appeared, on the whole, to be diminished. If this were a case of intrauterine poliomyelitis it was probable that comparatively few lesions would be found so long afterward as evidence of the process that had taken place. The changes of contour were probably explicable also on the ground that the process had lasted long. The distribution of the cell changes was far from being uniform. He saw no reason why the cortical changes should not be looked upon as secondary in view of the fact that the process must have occurred very early in life. In cases of congenital porencephalus of the right occipital lobe marked atrophy of the optic nerve had been observed and reported. In a case of this kind it was not right to draw conclusions from one or two points, but only after a careful study of the whole picture.

The Finer Microscopical Structure of the Cortical Areas in Man and Some Animals.—Dr. M. G. Schlapp made some remarks on this subject. He said that he had been struck with the great differences in the descriptions of the cortex as given by different writers. The earlier authors described five or six layers in the occipital lobe, whereas more modern writers described eight or even nine layers. These discrepancies he would explain by the fact that different animals had been used for their observations. The higher one goes in the animal kingdom the more the philogenetic secondary center tends to replace the philogenetic primary center. The secondary center does not control all movement, however. Plates were exhibited to show the differences in different animals. The motor area is not developed in the lower animals, so that it can be distinguished from the rest of the cerebrum, but such an area can be observed in the dog and monkey. In the dog it is very near the frontal pole, whereas in the monkey it is much further back. In the monkey is found an eight-layer structure. The cortical sight center is very much developed in the monkey and in man. These differences in structure were demonstrated under the microscope. The granule cells are characteristic of a highly-developed cortex. Most of these cells have ascending axones or very short axones. They are the cells which receive the impulses. These cells are very much more developed in the sensory than in the motor areas. In the sight center is found the eight-layer type. The auditory center can be recognized, but is not so sharply distinguished as is the sight center.